

No 78  
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18/16

(satisfactory)

Printed March 22<sup>d</sup>  
1826

C. S.  
Medical Dissertation  
on

Hæmoptysis.

By

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Petersburg

Virginia.

Sept 1891

# Hæmoptysis.

An ejection of blood, from the Mouth, attended by cough, subsequent to some affection of the breast, designates that species of the morrhage denominated by Nosologists, pulmonary Hæmoptysis. -

Hæmoptysis is termed from two greek words ΑΙΜΑ & ΠΤΥΩ. Literally implying a spitting of blood, is located by the renowned Cullen in the class *Æmexia*, and order *Hæmorrhagia*. -

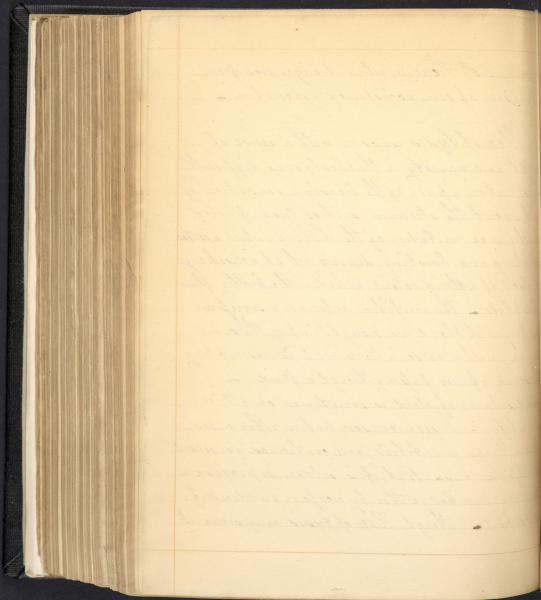
By the same Author, five species of this disease are enumerated, first, *Hæmoptysis plethorica* when it neither arises from external violence, nor is preceded by cough or suppression of usual evacuations. - 2<sup>d</sup> *Hæmoptysis*, when proceeding from external violence. - 3<sup>d</sup> *Phthorica*, where emaciation and continued debility ensue. - 4<sup>th</sup> *Calculosa*, when with the blood, calcareous concretions are

PLATE I



thrown up - 5<sup>th</sup> Hæmoptoe, when it originates from  
suppression of some accustomed evacuation. -

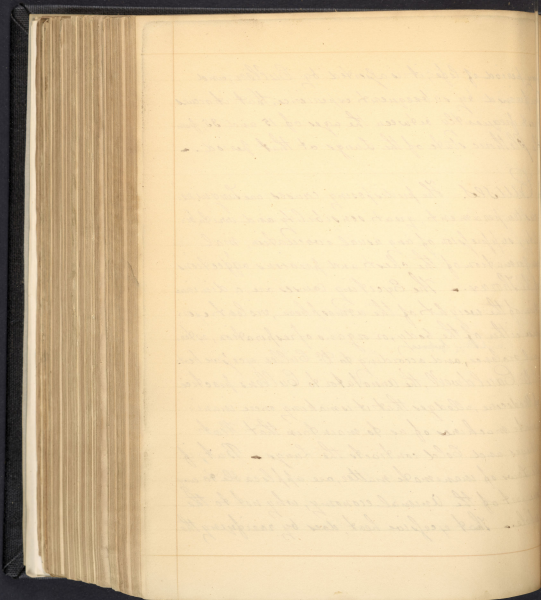
Hæmoptoe comes on, with a sense of  
weight and anxiety in the chest, some difficulty  
of respiration, a pain of the breast, a sensation of  
heat about the sternum, reddish taste, flushed  
countenance, irritation of the Larynx, which excites  
coughing and hawking, during which, a discharge  
of blood of a florid colour, mixed with a frothy fluid  
takes place. - The irritation returning, successive  
discharges of blood are brought up in the same  
manner, with a noise in the wind pipe, resembling  
the sound of air passing through a fluid. -  
The discharge of blood is sometimes small in  
quantity, and soon ceases, but in other cases  
it is in large quantities, and continues for several  
successive days. - But, it is seldom so profuse as  
to prove mortal, either by effluo or sudden suffo-  
cation. - Though Hæmoptoe may occur at



any period of life, it is asserted by Cullen, and confirmed by subsequent experience, that it occurs most frequently between the ages of 15 and 35, from the Plethoric state of the Lungs at that period.

Causes. The predisposing causes, are Languor, our temperament, great sensibility and irritability, suppression of any usual excretion, mal conformation of the chest, and previous affections of the Thorax. - The Exciting causes are, a diminution of the weight of the atmosphere, violent exercise either of the body, or organs of respiration, excessive <sup>irritating</sup> heat, and according to Dr. Cullen, excessive heat.

Dr. Cauldwell, the annotator to Cullen's practice of Medicine, alleges that it is making mere inanimate machines of us to maintain that Heat relaxes, and Cold contracts the Lungs. - But, if the Laws of inanimate matter, are applicable to any one part of the Animal economy, why not to the whole. - That excessive heat, does by rarifying the

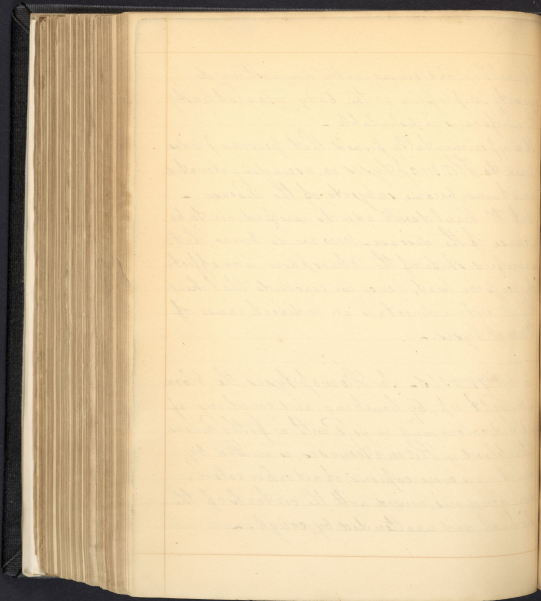


atmosphere, and consequently diminishing its gravity, or pressure on the body, relay (at least) the surface, is indisputable.

It is experimentally proved, that persons predisposed to Hemoptysis, on ascending elevated mountains, become subjects of the disease.

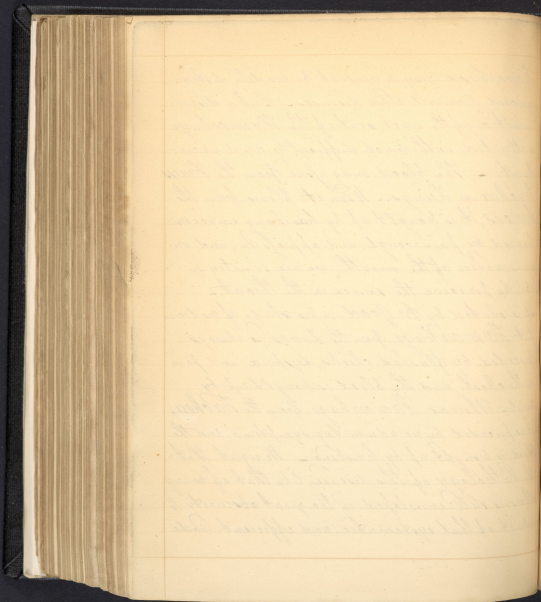
But Dr. Cauldwell admits, rarified air to be a cause of the disease. Now we do know, that a rarified state of the Atmosphere, is an effect, of excess we heat, hence we conclude that heat, though not a direct, is an indirect cause of Hemoptysis.

Diagnosis. In Hemoptysis, the blood is brought up, by hawking, and coughing of a florid colour, and mixed with a frothy mucus. The blood in Hematemesis, is emitted by vomiting is more copious, of a darker colour, more gelatinous, mixed with the contents of the stomach, and unattended by cough.



Hæmoptysis, may in general, be readily distinguished from all other diseases. But a discrimination of the exact seat of the hæmorrhage is attended with much difficulty and uncertainty. - The blood may issue from the Fauces, Trachea or Lungs. - When it flows from the Fauces, it is brought up by hawking unaccompanied by pain, cough, and oppression, and on examination of the mouth, we are sometimes able to perceive the source in the throat. 2

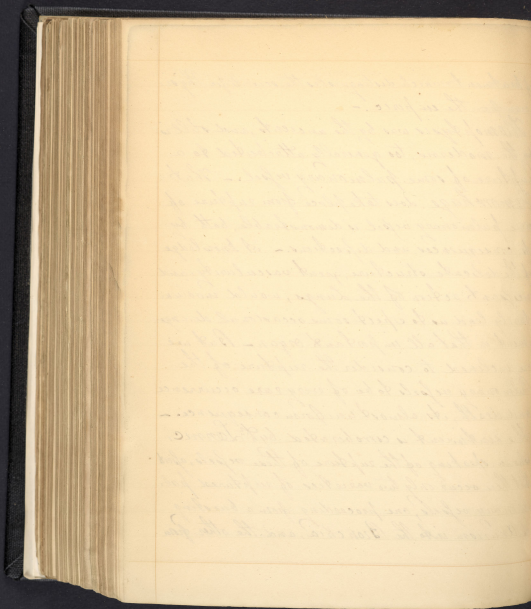
It is stated by Dr. Good, in his Study of Medicine, that Hæmorrhage from the Lungs, is always preceded by flushed cheeks, dyspnoea, and pain in the chest, and the blood is brought up by cough. - Whereas Hæmorrhage from the Trachea, is preceded by no extraordinary symptoms, and the blood is brought up by hawking. - We regret that the Pathology of this disease, like that of many others, is still enveloped in too great obscurity to admit of that systematic, and efficient mode





of treatment, which distinguishes the scientific Physi-  
cian from the empiric. -

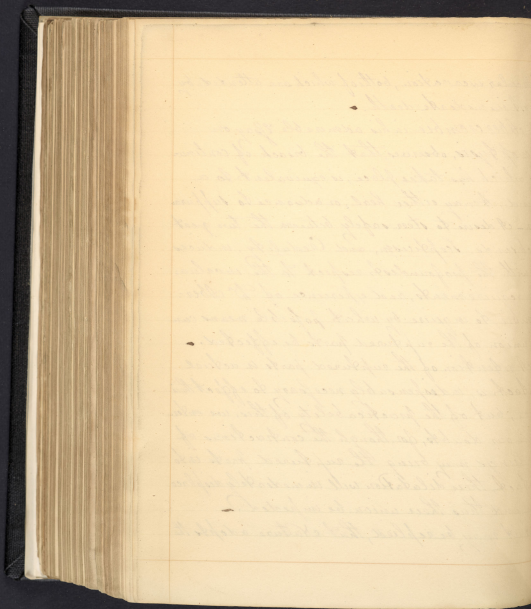
Hemoptysis was by the ancients, and still is  
by the moderns, too generally attributed to a  
rupture of some pulmonary vessel. - That  
Hemorrhage does take place from rupture of  
some pulmonary vessel is demonstrable, both by  
its consequences, and dissections. - A knowledge  
of the delicate structure, great vascularity, and  
incessant action of the Lungs, would involun-  
tarily lead us to expect some occasional disar-  
rangement in that all important organ. - But we  
are inclined to consider the rupture of the  
Pulmonary vessels to be of every rare occurrence  
and death, its almost uniform consequence. -  
This sentiment is corroborated by Dr Lennec,  
who, in speaking of the rupture of these vessels, asserts  
that there occur only two varieties of ruptured pul-  
monary vessels, one proceeding from a bursting  
of Aneurism into the Bronchia, and the other from



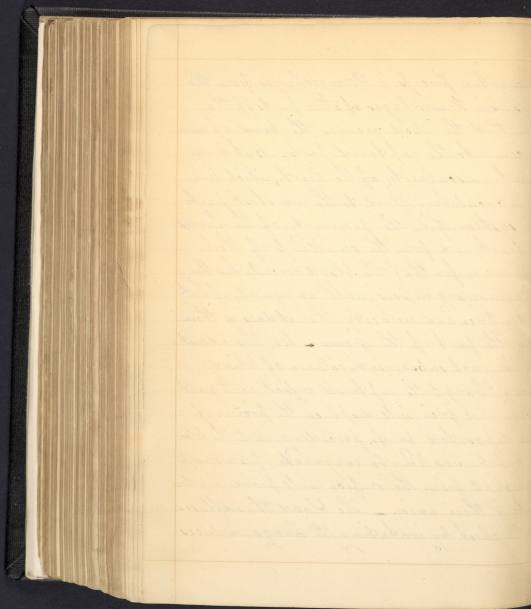
tubercular excavation, both of which are attended by almost immediate death.

D<sup>r</sup> Abercrombie in his admirable Essay on Hemoptysis, observes, that the breach of continuity which has taken place, is equivalent to a wound, & may either heal, or advance to suppuration. - I desire to steer safely between the two great quicksands, Scepticism, and Credulity, induces us, with the profoundest respect to the invaluable acquirements, and experience of D<sup>r</sup> Abercrombie, to inquire by what possible means can an union of the ruptured parts be effected.

A refection of the ruptured parts in actual contact is, indispensably necessary to effect their union; but of the practicability of this, we entertain our doubts, for, though the contractions of the Lungs may bring the ruptured parts into contact, their dilatation will immediately displace them, and thus their union be impeded. - But it may be replied, that Nature adopts the



same curative process in Hemorrhages from the Lungs, as in Hemorrhages of other parts of the system, that the blood becomes the bond of union and cements the ruptured parts. But from the great muscularity of the heart, which impels the circulating fluid to the remotest parts of the system, from the proximity of the Lungs to the heart, and from the smallness of their vessels, we infer, that the blood circulates through the pulmonary vessels, with an equal, if not, greater force and velocity, than it does in those of any other part of the frame. Be this admitted, then each subsequent column of blood passing through the ruptured vessel with great velocity and force, will displace the portion of blood deposited by its preceding, and the blood thus not having time to coagulate, previous to its removal from the orifice, will prove inadequate to their union. The blood thus effused into the chest, by irritating the Lungs, induces



inflammation, which in a healthy Lung, terminates  
in suppuration, but in a diseased Lung, in  
ulceration, and finally in Phtisis Pulmo-  
nalis -

D<sup>r</sup>. Lenné, in treating of Hemoptysis,  
observes, whatever may be the severity of this  
disease, resolution seems to take place, with  
great facility, since we find a great many  
cures of Hemoptysis. -

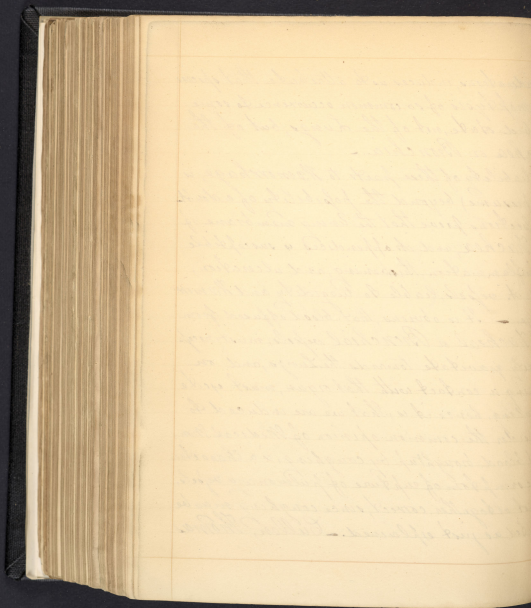
I have not had (continues he) opportunities of  
tracing the progress of this resolution by morbid  
dissections, but I think it must be complete,  
since I have never been able to trace the least  
vestige of induration in subjects, who had  
been affected with severe hemorrhage for a  
period of years, before their death. - The very  
circumstance of the researches of D<sup>r</sup>. Lenné,  
and other indefatigable Anatomists, in quest of  
vestiges of resolution in the pulmonary vessels,  
having proved abortive, combined with other





considerations, induces us to attribute that species of Hemoptysis of so common occurrence to some morbid state, not of the Lungs, but of the Trachea or Bronchia.

The liability of these parts to Hemorrhage, is (we presume) beyond the possibility of a doubt. Dissections prove that the lining membrane of the Trachea, and its appendices is susceptible of inflammation, thickening, and ulceration, and its vessels, liable to turgidity and Hemorrhage. — It is obvious, that blood effused from the Tracheal or Bronchial vessels, must necessarily gravitate towards the Lungs, and on coming in contact with that organ, must excite coughing, hence it is, that we are induced to consider the common opinion of Medical Men, that blood brought up by coughing, is a characteristic symp<sup>t</sup> of rupture of pulmonary vessels, as not altogether correct, since coughing may be excited as just explained. — Cullen, Thomas

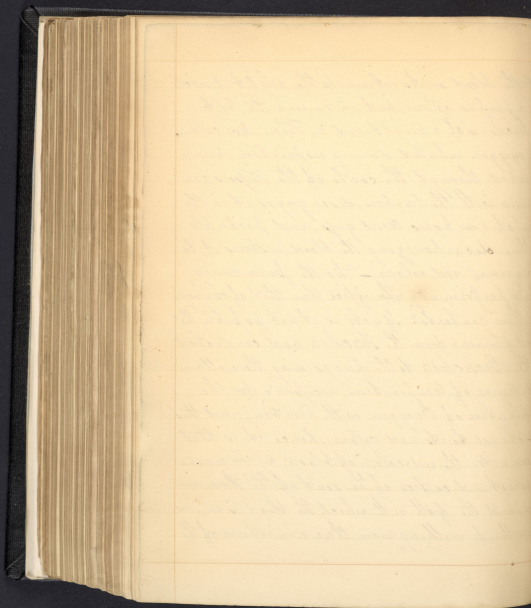


Good, Lenné, and every author, whose works  
we have had an opportunity of consulting on  
this disease, have particularized, not only  
coughing, but also the red colour of the  
blood, and the froth (with which it is mixed)  
as infallible symptoms of Hemorrhage from  
the Lungs. — Our want of coincidence with the  
above cited Authors, you will ascribe (we hope)  
to a desire, not of dissenting for the sake of  
oppositeness, but of contributing our mite to  
the advancement of that most humane and  
philanthropic of all sciences, which has for  
its noble object, the alleviation of the Mala-  
dies peculiar to the Human race. —

Whether the blood derives its red colour from  
a portion of Iron contained in that fluid, or  
from an animal substance of a peculiar na-  
ture, susceptible (like the colouring matter from  
vegetables) of uniting with bases, Chemists  
have not yet agreed — But this is certain,

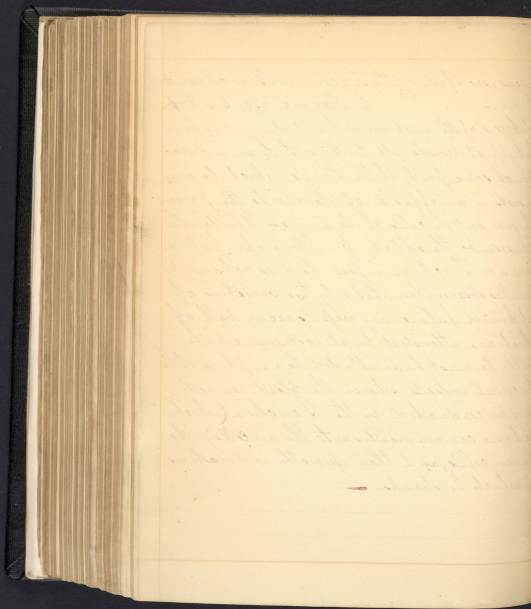
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that the blood on its return to the right Auricle  
is of a purple colour, but on leaving the left  
Ventricle, is of a bright red or Vermilion colour.  
The oxygen inhaled during respiration, being  
absorbed through the coats of the Vessels com-  
bining with the Carbon, disengages it in the  
form of Carboic Acid gas, and probably  
by thus decarbonizing the blood, restores it, to  
its original red colour - Do the pulmonary  
Vessels perform any other office than that of convey-  
ing their contents? If not, is it not possible that  
blood flowing from the Trachea, and conducted  
by the Bronchia to the Lungs, may there attain  
that degree of temperature necessary for the  
combination of Oxygen with Carbon, and thus  
be restored to its red colour, hence it is that  
we consider the red colour of blood, by no means  
a correct indication of the seat of the Hæmorrhage,  
and the froth with which the blood is mixed  
is, we think nothing more than a mixture of the



mucus, secreted by the Trachea or Bronchia with  
the air. —

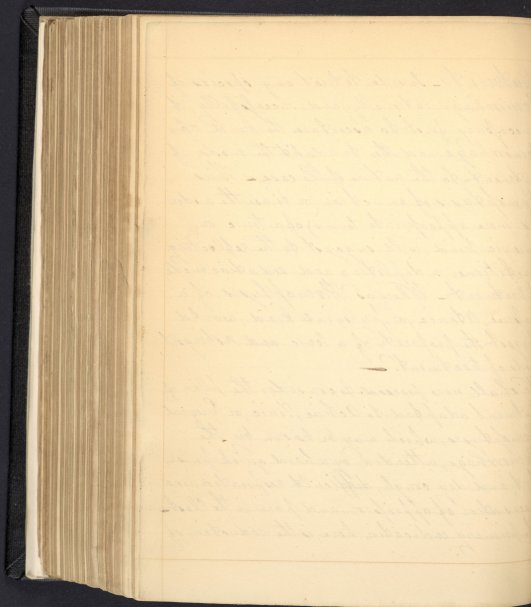
Dr Lenné ascribes Hæmo-  
-optysis of the most violent and dangerous kind,  
that which resists all treatment, to an indura-  
-tion of some part of the Lungs, which he says  
consists in an effusion of blood into the paren-  
-chyma, or air cells of the Lungs. Whether this  
effusion be the effect of rupture of a pulmo-  
-nary or Tracheal vessel, he does not say; but  
from his observation, that only two varieties of  
ruptured pulmonary vessels occur, both of  
which are attended by almost immediate  
death, he must have alluded to a rupture of the  
Tracheal vessels, whence the blood emanating  
may be conducted by the Bronchia (which  
we know communicates with the air cells) into  
the air cells, and there forms the indurations  
of which he speaks. —



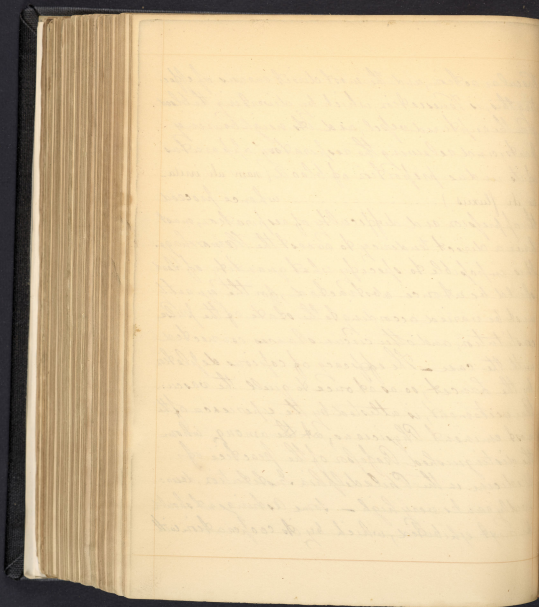


Treatment - In order to treat any species of Hemorrhage rationally, and successfully, it is necessary first to ascertain the kind of Hemorrhage, and then to adapt the mode of treatment, to the nature of the case. Thus Hemoptysis of an active (or to use the modern and more appropriate terms) of a tonic or pyrexia kind, will suggest to the reflecting practitioner, a depleting and sedative mode of treatment. Whereas Hemoptysis, of a passive, atonic, or <sup>or</sup> pyrexial kind, would suggest the propriety of a tonic and astringent mode of treatment. —

We shall now proceed to consider the plan of treatment adapted to Active, Tonic, or Pyrexial Hemoptysis, which may be known by the Hemorrhage, attended by a hard quick pulse, short, and dry cough, difficult respiration, and a sensation of oppression, and pain in the Chest. The primary indication here, is the reduction of



Vascular action, and the most direct means of effecting this, is Venesection, which by diverting the blood from the ruptured vessel, and its neighbouring parts, and relieving the respiratory apparatus of its undue proportion of blood (namely its irritation its fluxus) . . . . . whence proceed the oppression and difficulty of respiration, must have a direct tendency to arrest the hemorrhage. It is impossible to specify what quantity of blood should be at once abstracted, for the quantity must be varied according to the state of the pulse, constitution, and other circumstances connected with the case. The efficacy of copious depletion by the Lancet, so as at once to quell the vascular excitement, is attested by the experience of the most eminent Physicians, & among whom the distinguished Professor of the practice of Medicine in the Philadelphia Institution, deservedly ranks very high. Some Astringent should be next exhibited, which by its cooperation with



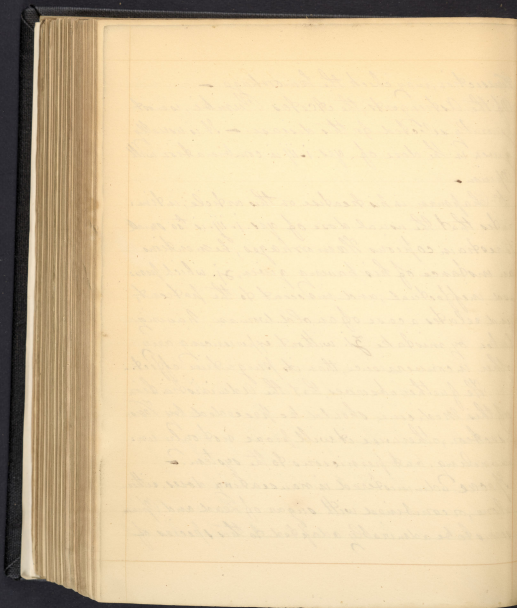
Torresion, may check the hemorrhage -

Of the Astringents, the *Acetas Plumbei*, is most generally selected for this disease. - It is usually given in the dose of  $\text{grs. i-ij}$  in combination with Opium.

Dr. Chapman in his treatise on this article, intimates that the usual dose of  $\text{grs. i-ij}$  is too small to restrain copious Hemorrhages, he mentions an instance of his having given,  $\text{ʒj}$ . which proved ineffectual, and innocent to the patient, and relates a case of an old woman, having taken by mistake  $\text{ʒj}$ . without experiencing any other inconvenience, than its purgative effect.

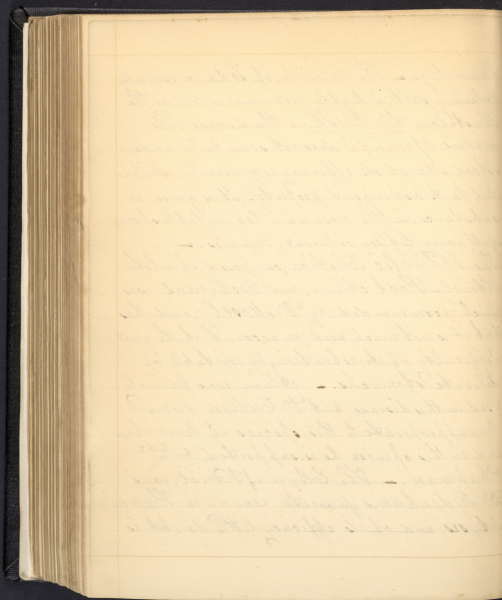
He further observes, that the Administration of this Medicine should be preceded by Torresion, otherwise it will prove not only unavailing, but pernicious to the system.

*Specac.* administered in nauseating doses, either alone, or combined with sugar of Lead and Opium, seems to be admirably adapted to this species of



Hæmorrhage. - The Muriate of Soda, or common culinary salt, is highly recommended by the illustrious D<sup>r</sup>. Rush in this disease; its modus Operandi, does not seem to be understood, though its efficacy is generally attributed to its astringent property. - It is given in substance, in the dose of a tea, or table spoon full every fifteen or twenty minutes. -

The Nitriolic Solution, composed of white Nitriol - Rock Alum, and Cochineal, was much recommended by D<sup>r</sup>. Mosely, and others but it is not much used, on account of the great difficulty of its retention, by irritable or delicate Stomachs. - Alum, was formerly used in this disease, but D<sup>r</sup>. Cullen, deemed it inappropriate to this species of Hæmorrhage and in this opinion, he is supported by D<sup>r</sup>. Chapman. - The Elixir of Nitriol, was D<sup>r</sup>. Sydenham's favorite remedy in Hæmorrhæsis, and of its efficacy little doubt is



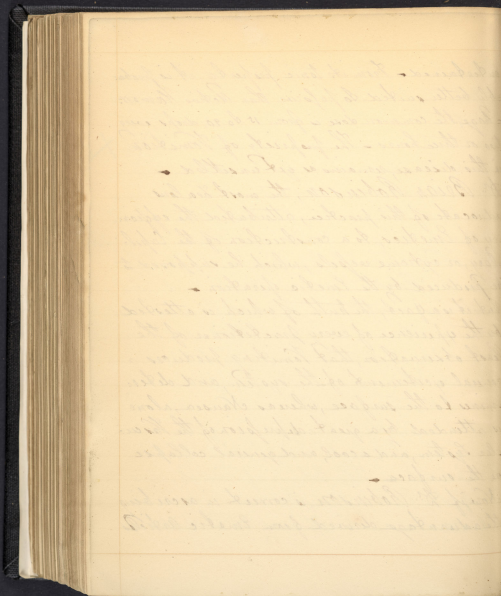


on the contrary - From its tonic property, it is proba-  
bly better suited to passive than Active Hemorrh-  
age, the common dose is from 15 to 20. drops, every  
two or three hours - The propriety of Vomiting  
in this disease, remains as yet unsettled -

Dr. Brian Robinson, the most zealous  
advocate of this practice, attributed the efficacy  
of Emetics, to a constriction of the Capil-  
lary, or extreme vessels, which he supposed to  
be produced by the Emetic operation -

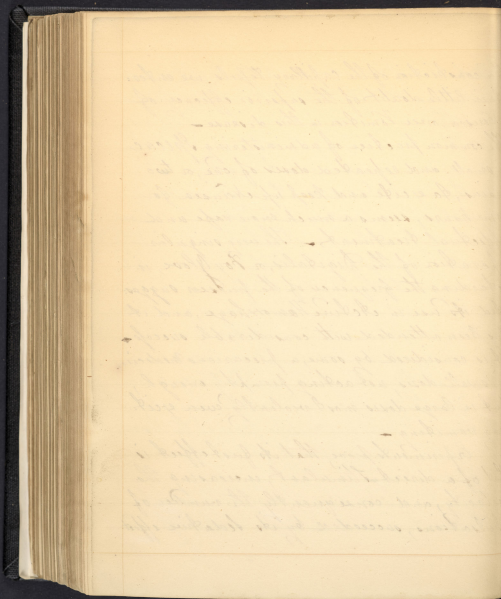
But it is a fact, the truth of which is attested  
by the experience of every practitioner of the  
last observation, that Vomiting produces a  
general excitement of the system, and deter-  
mines to the surface, whereas Nausea, alone  
is attended by a great depression of the Vascu-  
lar System, and a cool, and general collapse  
on the surface -

Now if Dr. Robinson, is correct in ascribing  
the advantage derived from Emetic Articles



to a constriction of the capillary vessels, we enter:  
Iain little doubt of the superior efficacy of  
Nausea, over Vomition in this disease -  
The common practice of administering Ipecac  
in small and repeated doses of one, or two  
grains, to excite and keep up Nausea for  
some hours, seems a much more safe and  
effectual treatment. - The very singular  
operation of the Digitalis, or Fox Glove, in  
retarding the frequency of the pulse; sugges-  
ted its use in Active Hemorrhage, and it  
has been attended with considerable success.  
It is considered by some, a precarious medicine,  
in small doses, not acting promptly enough,  
but in large doses most violently even excit-  
ing vomiting -

Experiments prove, that its first effect is  
that of a direct Stimulant, increasing the  
velocity, and consequently the number of  
pulsations, succeeded by its sedative effect



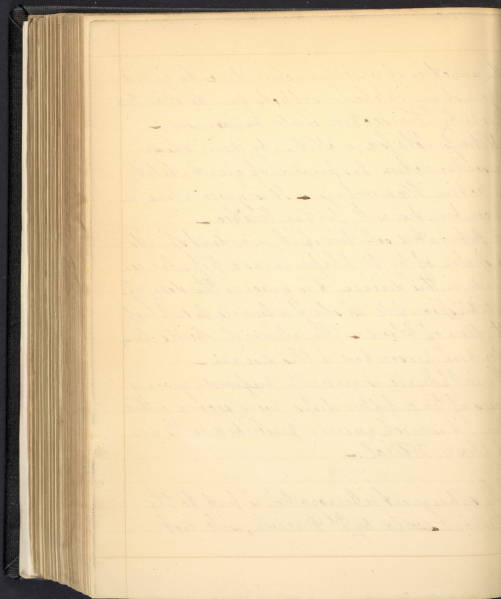
The reduction of vascular action, hence to guard against any deleterious effects from its Stimulated property, Venesection should be premised -

Nitrate of Potassa, or Nitre, by diminishing vascular action, has proved of great utility in Active Hemorrhage - It is given alone, or in combination with Tare Tare Emetic -

A saturated solution of it, in ardent spirits is spoken of by Dr. Chapman, as a popular remedy in this disease, it is given in the dose of a tablespoon full at short intervals to suppress the flow of blood - The Mineral Acids, have also been prescribed in this disease -

The Sulphuric is generally preferred, given in doses of ten or fifteen drops, every second or third hour, it is most generally prescribed in the form of Elixir Vitriol -

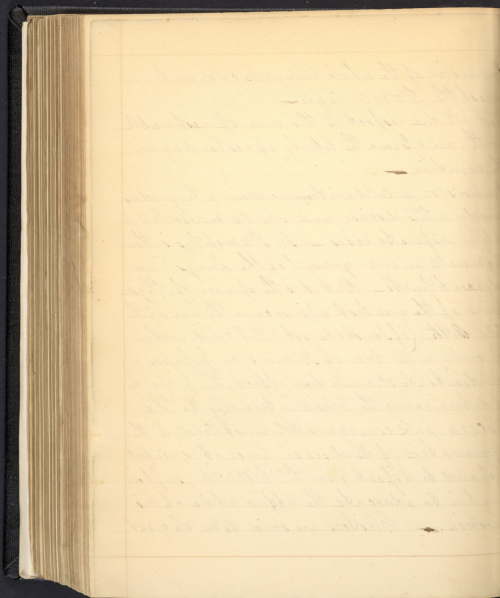
The subsequent interrogation is put to the Medical world by Dr. Dacosta, will not



Immersion of the whole body, into cold water,  
arrests the Hemorrhage—

With all due respect to this man of inestimable  
worth, we assume the liberty of responding in  
the negative—

Immersion in Cold water, we deem a hazardous  
remedy in this disease, and should be resorted to  
only in desperate cases— In Hemoptysis, there  
is generally an engorgement of the Lungs, and  
adjacent parts— But it is the opinion of Physi-  
cians of the greatest experience in the use of the  
Cold Bath, (if I mistake not) that cold water  
especially in the form of Immersion, possesses in  
addition to its stimulating effect, the property  
of determining the blood internally to the  
Viscera, and consequently must tend to the  
aggravation of the disease, hence it is we feel  
disposed to dissent from Dr. Darwin, suppos-  
ing him to advocate the affirmative of his  
question.— Blesters, are said to be of great





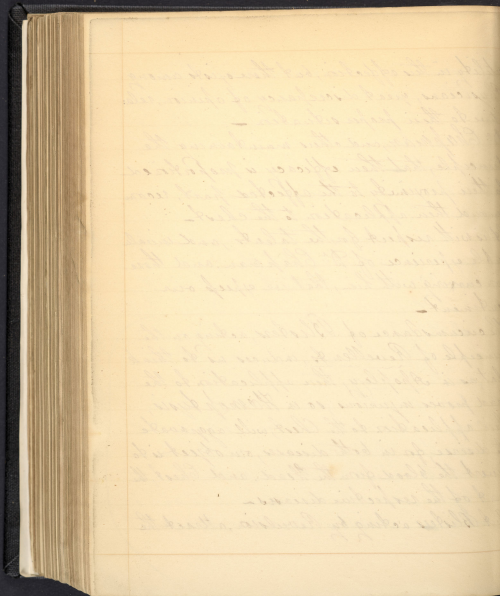
ability in this affection, but there exists among Physicians, great discrepancy of opinion, relative to their proper situation -

D<sup>r</sup>. Chapman, and others maintaining the principle, that their efficacy is proportioned to their proximity to the affected part, recommend their application to the chest -

It is with respect for the talents, and invaluable experience of D<sup>r</sup>. Chapman, and those concurring with him, that we express our sentiment -

The circumstance of Blisters, acting on the principle of Revulsion, induces us to think that, as in Apoplexy, their application to the head proves injurious, so in Hemoptysis, their application to the Chest, will aggravate the disease, for in both diseases, our object is to divert the blood from the Head, and Chest, the seat of the respective diseases -

But Blisters acting by Revulsion, attract the

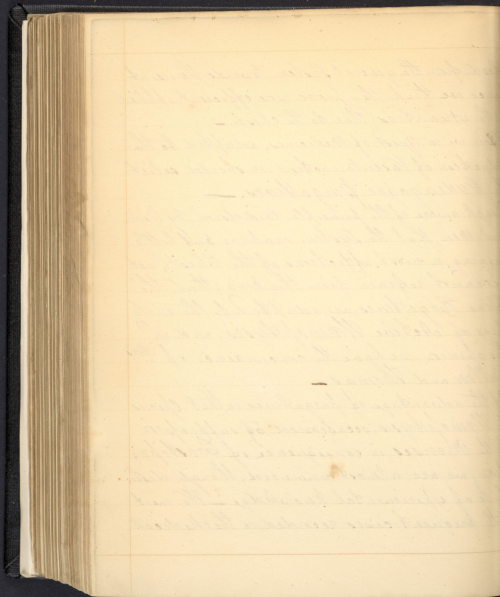


blood, from the general System towards the heart, hence we think they prove more efficient, applied to the extremities, than to the chest. —

Where we are in quest of Medicines, adapted to the reduction of Vascular action, we should select the Hydragogue Purgatives. —

Though aware of the principle laid down by Medical Men, that the System can bear but little purging in most affections of the Chest, yet we cannot refrain from thinking, that the Saline Purgatives, are adapted to the early stage of Active Hemoptysis, and in this opinion, we have the concurrence of Drs. Bullen and Thomas —

Of the advantage of purgatives in that species of Hemoptysis, occasioned by suppression of the Menses, in consequence of Constipation, we are almost convinced, though destitute of experimental knowledge. — We meet with frequent cases recorded in the Medical

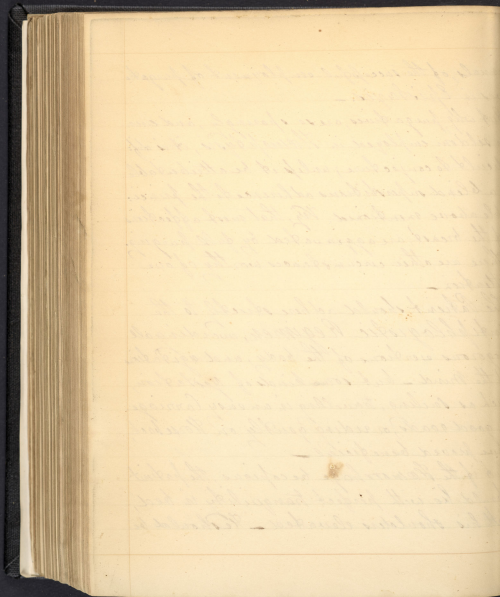


annals, of the successful employment of purgatives in Epistaxis. —

But why purgatives, are so sparingly, and even so seldom employed in Hemoptysis, it is difficult to conjecture; unless it be attributable to a blind superstitious adherence to the principle above mentioned. viz, that most affections of the breast, are aggravated by full purging. There are other circumstances worthy of our attention —

The Patient should adhere strictly to the Antiphlogistic Regimen, avoiding all vigorous exertions of the body, and agitation of the mind — but some kinds of exertion, such as sailing, travelling in an easy Carriage on good roads, or riding gently on Horseback, have proved beneficial —

But if the Hemorrhage be copious, the patient should lie with perfect tranquillity in bed, with his shoulders elevated — He should be



kept taciturn, as the flow of blood, may be  
reinduced by coquacity -

His Diet, should be very low, consisting of  
acidulated drinks, and milk, his Bowels  
should be kept soluble, and his Chamber  
cool and well Ventilated -

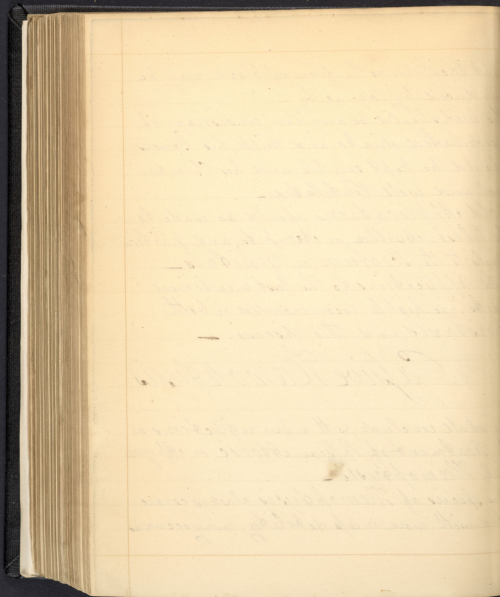
Cold Applications, should be made to  
the Chest, Axillæ, or Temples, and particu-  
larly to the Pectorum, or Genitals -

Cold Applications to the last mentioned  
parts, are highly recommended in both  
Epistaxis, and this disease. -

## Passive Hemoptysis

We shall conclude, with a few reflections on  
the Treatment of Passive, Chronic or Apoplex-  
ial Hemoptysis -

This species of Hemoptysis is always conse-  
-qued with more, or less debility, may occur as



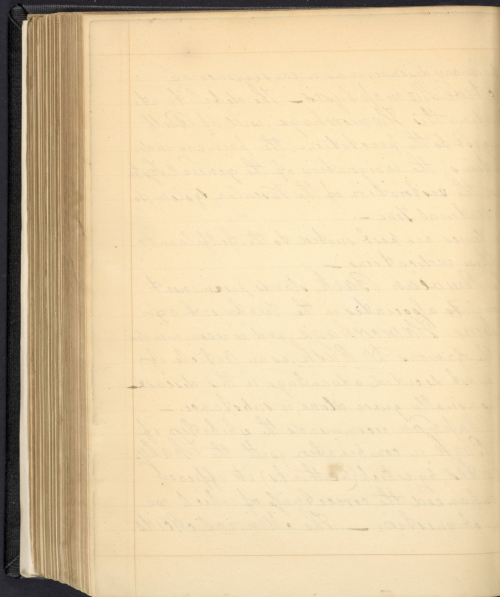


a primary disease, or as a consequence of  
Active Hemorrhage. The ability at-  
tending this Hemorrhage, will of itself  
suggest to the practitioner the primary indi-  
cations, the invigoration of the general system  
and the restoration of the Vascular system, to  
its natural tone.

The Tonics are best suited to the fulfilment  
of these indications.

The Peruvian Bark stands preminent  
above its associates in the treatment of  
Passive Hemorrhage, and is recommended  
by the famous Dr. Rush, as an Article of  
the most decided advantage in this disease.  
It is usually given alone, in substance.

Dr. Chapman, recommends the exhibition of  
the Bark in combination with the Chaly-  
beates, by which (he thinks) its efficacy  
is enhanced the correctness of which we  
cannot question. The Mineral Acids

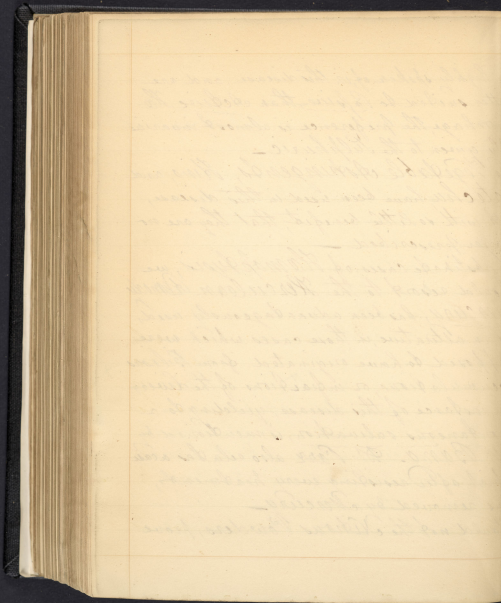


are highly spoken of in this disease, and are better suited to Passive, than Active Hemorrhage, the preference is almost invariably given to the Sulphuric -

The Vegetable Astringents, Kino, and Catechu have been used in this disease, but with so little benefit, that they are no longer prescribed -

In obstinate cases of Hemoptysis, we should resort to the Herculean Remedy MERCURY, has been advantageously used, as an alterative, in those cases which were supposed to have originated from Bilious accumulations, or infarctions of the liver; an instance of this disease, yielding to a spontaneous salivation, is mentioned by Mr. Bano. Dr. Parr also relates a case which, after resisting every treatment, was removed by Mercury -

Would not the Nithous Powders, prove

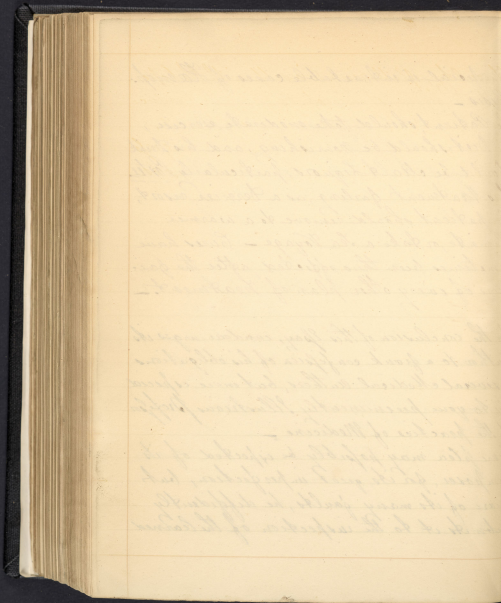


beneficial in intractable cases of Hæmop-  
tyxis -

The Patient should take moderate exercise,  
his Diet should be nourishing, and his Drink  
should be small Liquors, particularly Porte.  
This treatment failing, as a dernier resort,  
the patient should remove to a warmer  
Climate, or take a Sea Voyage - Cures have  
sometimes been thus effected, after the fail-  
ure of every other plan of treatment. -

In the conclusion of this Essay, candour urges its  
Author to a frank confession of his obligations  
to several Medical Authors, but more especial-  
ly to your preeminently Illustrious Professor  
of the practice of Medicine -

Some plea may possibly be expected of its  
Composer, for its great imperfection, but  
aware of its many faults, he diffidently  
submits it to the inspection of the learned



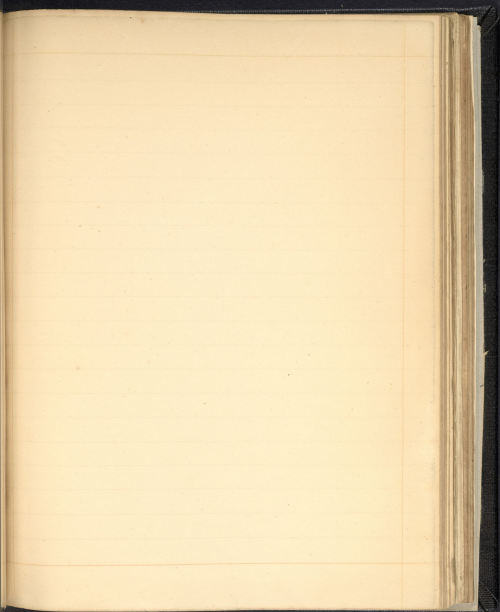
Faculty, flattering himself with the hope  
that the circumstance of its being the produc-  
tion of a youthful, and undisciplined,  
mind, may suffice to atone for the gross-  
ness, and multiplicity of its defects.

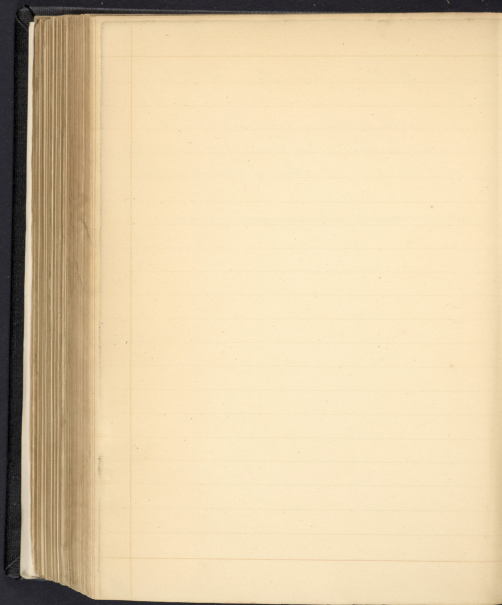
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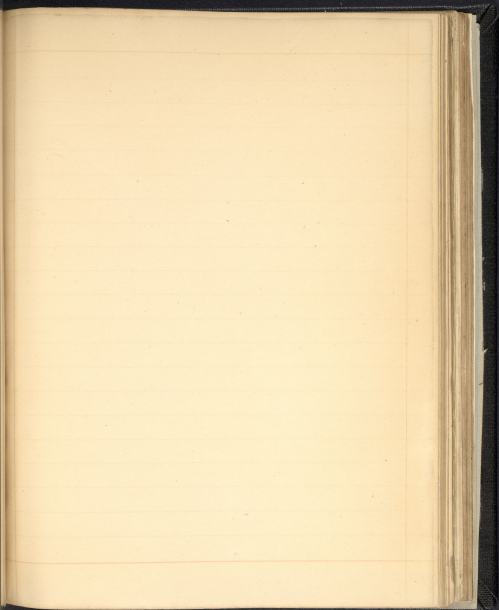
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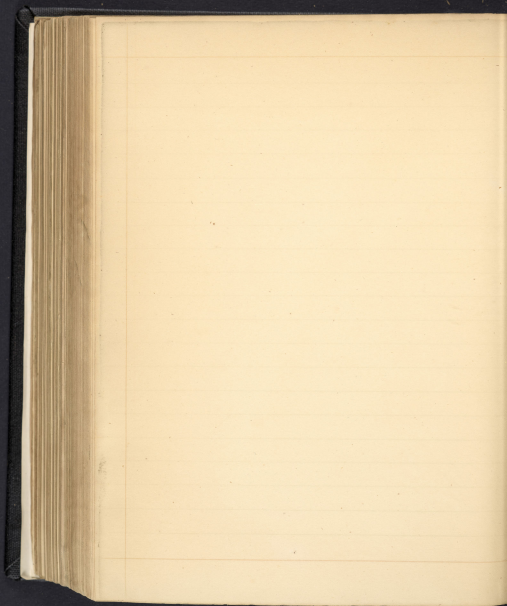
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Paper bound 12 May  
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